THE INTEGER SEQUENCE A348960.

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THE INTEGER SEQUENCE A348960

$a(n) = \lfloor \log(\pi n!) \rfloor$

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1. The sequence A348960.

This sequence of integers originally corresponds to the following formula.

Formula.

For an non-negative integer such that $n \geq 0$ we have that [2]:

$$a(n) = \lfloor \log(\pi n!) \rfloor \tag{1}$$

Evaluating (1) from $0 \leq n \leq 70$ we have the following set of values for each term of the sequence:

[0, 0, 0, 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 22, 24, 25, 27, 28, 29, 31, 32, 34, 35, 37, 38, 40, 42, 43, 45, 46, 48, 50, 51, 53, 54, 56, 58, 59, 61, 63, 64, 66, 68, 70, 71, 73, 75, 77, 78, 80, 82, 84, 85, 87, 89, 91, 93, 95, 96, 98, 100.]

An equivalent formula.

On the **OEIS** the following equivalent form of the above formula was proposed [1]

$$a(n) = \lfloor A053511 + \log(n!) \rfloor. \tag{2}$$

2. An MATHEMATICA Algorithm.

The following algorithm is courtesy of **(* Michael De Vlieger, Nov 05 2021 *)**:

Array[Floor@ Log10[Pi*!] , 71, 0]

3. Some graphs.

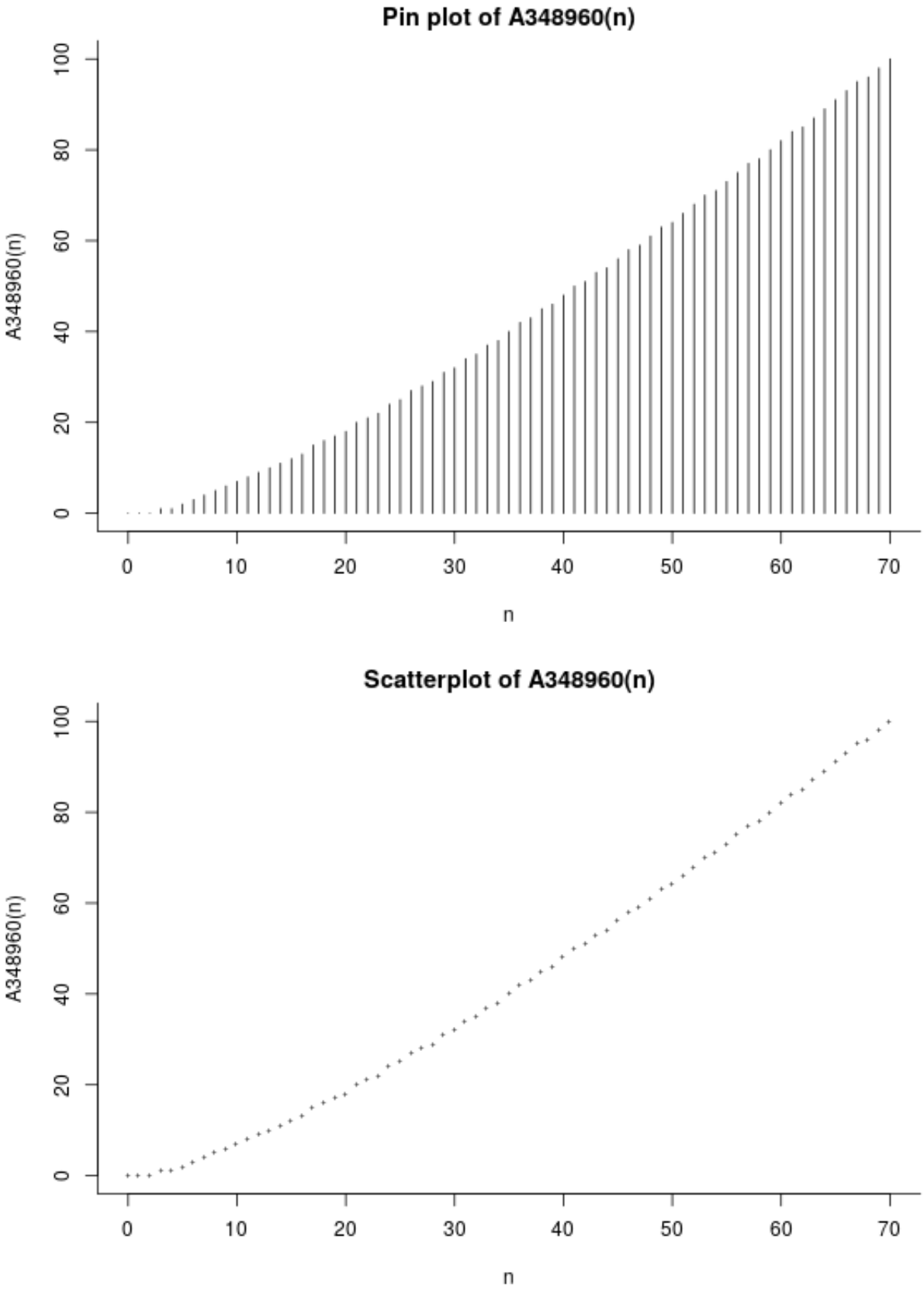

Figure 1: These graphs are courtesy of the OEIS graphics system.

Bibliography

[1] OEIS Foundation Inc. (2021). The on-line encyclopedia of integer sequences. http://oeis.org/A053511.

[2] OEIS Foundation Inc. (2021). The on-line encyclopedia of integer sequences. http://oeis.org/A348960.